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ABSTRACT

This study examined the effects of three modes of story reconstruction training on the development of children's story comprehension. One hundred and eight children in grades K to 2 were randomly assigned to one of three training conditions: thematic-fantasy play, adult lead discussion, or drawing. The children were read three books on separate occasions and then exposed to one of the conditions. Children in the thematic-fantasy play condition, after being read each story, were asked by the experimenter to play out the story they had just heard. The play episodes were videotaped. Children in the discussion group were asked evaluative and clarification questions about the stories (i.e., "Did you like the story? What did you like about the story? Why?"). All discussions were audiotaped. Children in the drawing condition were told by the experimenter to draw as much about the story as they could. A two-factor criterion referenced test and a free recall task were used to analyze story comprehension. The resulting data revealed that second graders' performance on all comprehension measures was superior to the younger children's performance. Thematic-fantasy play was the most effective facilitator of all types of comprehension, particulary for kindergarten children. (Author/MP)

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The effects of thematic fantasy play training on the development of children's story comprehension*

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Running Head: Thematic-fantasy play

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Abstract

The intent of the study was to examine the effects of three modes of story reconstruction training on the development of children's story comprehension. One hundred and eight children in grades K-2 were randomly assigned to one of three training conditions: thematic-fantasy play, adult lead discussion, or drawing. Children were read three books on separate occasions and exposed to one of the conditions relating to each specific book. Story comprehension data, as measured by a two factor criterion referenced test and a retell task, collected after the third session, were analyzed. Second graders' performance on all comprehension measures was superior to the younger children's comprehension. Thematic-fantasy play was the most effective facilitator of all types of comprehension, particularly for kindergarteners. Specific play roles enacted seemed to have a direct effect on the ability to retell stories.

The intent of this study was to examine the effects of different modes of story reconstruction training on children's story comprehension. The modes of reconstruction used were thematic-fantasy play training, adult lead discussion groups, and drawing groups. The children in the present study were in grades kindergarten, one, and two.

Stimulated by the work of Piaget (1962), and Smilansky (1968), researchers (Saltz & Johnson, 1974; Saltz, Dixon & Johnson, 1976; Dansky, 1980) have recently attempted to delineate further the effects of social dramatic and thematic fantasy play on children's cognitive functioning. These researchers generally found that training preschoolers in social dramatic or thematic fantasy play had positive effects on their performance on standardized measures of language production and story comprehension. These studies typically trained children in play for a period of time then read them a story after the training. Children's story comprehension was measured by their sequentially arranging pictures from the story.

Saltz and his colleagues (Saltz & Johnson, 1974; Saltz, Dixon, & Johnson, 1977) defined thematic fantasy play as children enacting roles and themes not related to their personal experiences. It was contrasted with social dramatic play where children enact themes within their experiential realm. For example, children playing Jack and the Beanstalk would be doing thematic fantasy play whereas children playing house would be doing social dramatic play. In the latter Saltz et al. (1977) study separate groups of preschoolers were tutored by adults in both play modes. In addition, other treatment groups interacted with adults either in discussion groups or around constructive activities. Children in the thematic play group performed significantly higher than the other groups on a number of cognitive measures, one of which was story comprehension. The authors

concluded that the element of fantasy in this condition was most responsible for these gains. They minimized the role of verbal stimulation or peer interaction as possible contributors to cognitive gains.

Other researchers (Sachs, 1980; Rubin, 1980) have also suggested that fantasy play facilitates story comprehension. They noted that the elements specific to play, i.e., linguistically transforming roles and props and peer interaction, enable children to reconstruct events and sequences in a story. In thematic fantasy play children must verbally encode peers' play role transformations and object transformations (Pellegrini, in press). Sachs (1980) argued that this process of verbally transforming roles and props helps children acquire the narrative function of language, e.g., story telling and talking about past events. Rubin (1980) stated that the peer interaction element in thematic-fantasy may also be a causal variable. From a Piagetian perspective, he noted that when children engage in fantasy play they must reach concensus concerning the goals of the play episode and role and prop transformations. Such agreement necessitates that each player's concept of the story is accomodated to their peers' concepts. That is, in order to initiate and sustain play players must accept a common goal of the play episode and common player/prop transformations. This peer interaction element in thematic-fantasy play should facilitate story comprehension because children must see roles and props from viewpoints other than their own. Their concept of the story is multidimensional because they have had to accomodate to other players' views of the story. Preoperational children typically have a self-centered story concept (Piaget, 1969) and thematic play should expand their story concepts.

Brown's (1975) research also suggests that children's story comprehension

is facilitated when they are asked to reconstruct the story. She defined reconstruction as children thinking about the individual story events and story sequence and then arranging sequentially pictures of the story. By mentally reconstructing the events to oneself and arranging pictures, children build an internal representation of the story.

The hypothesis put forth by Sachs (1980) and Rubin (1980) suggests that story comprehension may be a function of players actively reconstructing the story among themselves. Brown's notion of story reconstruction does not include a social interaction element. The present study was designed to test the extent to which various modes of story reconstruction affected story comprehension. The fantasy play condition in this study had children verbally reconstructing the story through peer interaction. The extent to which peer interaction affects story comprehension can be explicated further by examining the effect of specific play roles on story comprehension. That is, those children with more active roles, e.g., a protagonist, should have better story comprehension. In order to answer this question children's comprehension was measured on a story they enacted, unlike previous studies (e.g., Saltz & Johnson, 1974; Saltz, Dixon & Johnson, 1977; Dansky, 1980) examining the effects of play on story comprehension.

The discussion condition in the present study also had children verbally reconstructing the story. Their reconstructions, though in peer groups, were the result of adult questions. These children did not engage in fantasy reconstruction or accomodate to the views of the others in the discussion group. Children in the drawing condition reconstructed the story graphically. They were not exposed to the reconstructions of other children. It was predicted that children's story comprehension would be facilitated to the extent that they verbally reconstructed the story episodes and accomodated to peers' views of the story.

Other studies examining the effect of fantasy play on story comprehension have been limited to preschool children. Piaget (1969, cited in Brown, 1975) stated that children younger than seven or eight years of age are not capable of reconstructing stories in the correct order in that such an operation presupposes reversibility of thought. The present study examined the effects of different modes of story reconstruction on children in grades K, 1, and 2. This age group was selected for two reasons: to test Piaget's theory that sequential recall of stories improves after seven-eight years of age and to determine the extent to which kindergarteners can be trained so their recall approximates older children's recall.

Method

Subjects

The 108 children, fifty-four boys and fifty-four girls, involved in this study all attended a school in rural Northeast Georgia. The sample was randomly selected from all children in the school in grades K, 1, and 2. The mean ages in months for children in grades K, 1, and 2 were: 71.472 (SD = 3.613); 87.361 (SD = 4.911); 96.611 (SD = 2.588), respectively. Within each grade, nine groups of four children were formed by random assignment; each group consisted of two boys and two girls from the same grade. The groups within each grade were randomly assigned to one of three treatment conditions: thematic-fantasy play, discussion, or drawing.

Design and Measures

The design for the study was a 3 (grades: K, 1, and 2) x 3 (conditions: play, discussion, and drawing) x 2 (sex) factorial design. The dependent measures were: performance on a criterion referenced test for the last story read and the total number and sequence of events recalled for this story. The criterion referenced test consisted of ten multiple choice questions; each question had one correct answer and threedistractors. Questions related to different aspects of the story Little Red Cap. More specifically, the ten questions were composed of two items for each of five of Bloom's (1956) cognitive taxonomy areas: knowledge, comprehension, application, analysis, and evaluation. Factor analyses of all the items yielded two factors; story based intelligence and judgmental intelligence.

The recall task had individual children retelling the story to an experimenter. Recall was measured by first breaking down the story into its constituent structure (Rumelhart, 1975; Thorndike, 1977). There were nine

main constituents in the story: the setting, seven episodes, and the conclusion. Retellings were scored as including a constituent if the "gist" (Bartlett, 1932, Thorndyke, 1977) of that constituent was mentioned, irrespective of order. For example, when the wolf knocks on grandmother's door a conversation ensues, ending with the wolf devouring grandmother. The statement Then the wolf ate grandma up would be scored as sufficient recall for that particular constituent. Retellings were also scored for sequence. Constituents recalled in their immediate temporal order were scored as sequential using an n-1 base. For example, a retelling consisting of constituents 2, 4, 5, 7, 8, 9 would have a score of 3; a score of 1 for the 4, 5 sequence and 2 for the 7, 8, 9 sequence. Interrater reliability for the coding of children's retellings was established by having two coders independently score all recall transcripts for events and sequence recalled; there was a 96% agreement.

Procedure

Individual groups of four children, same grade and same condition, were taken to a play room in their school by an experimenter. One male and one female experimenter were randomly assigned to sessions. The play room was equipped with videotaping equipment. Each group of children was taken to the play room for two separate training sessions. During each session an experimenter read the group a story and exposed them to the appropriate training conditions. The stories read to the children in sessions one and two were: The Three Billy Goats Gruff, and The Three Bears, respectively. After the experimenter read each book to the childrer they were trained in their respective conditions: thematic-fantasy play, discussion, or drawing. They were then given a sheet with ten multiple choice criterion referenced test items. After each question and the four choices were read aloud twice by the experimenter, children were told to choose an answer. Children in grades

one and two were told to circle the correct answer. Kindergarteners individually whispered their answer to the experimenter, who then recorded the answers on individual answer sheets. Each session of reading, training, and testing lasted approximately thirty minutes.

After the two training sessions were completed, the criterion phase of the study began. In the third session each group of four children was taken to the same play room by the female experimenter. She then read each group the traditional folk tale Little Red Cap. This well known story was selected so that all children would be familiar with the tale; also, folk tales are popular with young children and lend themselves to dramatization. After the story was read the children were trained in their respective training condition and then given the criterion referenced test for Little Red Cap.

Upon completion of the criterion referenced test, individual children were asked to re-tell the story to an experimenter. One half of the children retold the story to the experimenter who read them the story, i.e., an informed listener, and the other half retold the story to the other experimenter, i.e. a naive listener. Children were randomly assigned to naive or informed listeners. The informed listener told children: I just read you a story. Tell me as much of the story as you can remember. The naive listener told children: You just heard a story. I didn't hear that story. Tell me as much of the story as you can remember.

Children's responses to Little Red Cap was the criterion phase of the experiment. That is, only the criterion referenced test scores and retellings from the Little Red Cap session were analyzed.

The treatment conditions

After children in the thematic fantasy play condition heard each story the experimenter assigned each of them a role from the story. The children were told; I would like you to play about the story you have just heard. Play episodes were videotaped. In Little Red Cap the female experimenter played Red Cap's mother and, as such, initiated the play action.

Children in the discussion condition, after being read each book, were asked evaluative and clarification questions by the experimenter about the books, i.e., Did you like the story? What about the story did you like? Why? What was your favorite part? Why? Who in the story was your favorite? Why? All discussions were audiotaped. Children in the drawing condition were told by the experimenter, after they heard the stories, to Draw as much about the story as you can. Children were given crayons and blank paper.

Results

The study analyzed the effects of sex, condition, and grade on children's story comprehension as measured by a criterion referenced test (CRT) and a free recall task. The CRT items, based on two items for each of five of Bloom's (1956) cognitive categories, were factor analyzed using a principal axis method with varimax rotation. The ten items used in the factor analysis are reported in the correlation matrix in table 1. The rotated factor pattern is reported in table 2.

(Table 1 here)

(Table 2 here)

Based on previous factor analysis work on Bloom's taxonomy (Miller, Snowman, & O'Hara, 1979) two factors were specified. The factor analysis was terminate when eigenvalues fell below one. As can be seen in table 2, the two factors were items 1-6 and 8 and items 9-10, story related intelligence and judgemental intelligence, respectively. Item seven did not load sufficiently on either factor therefore it was not included in subsequent analyses. This procedure resulted in two factors accounting for 44.1% of the variance. Descriptive statistics for grades and conditions for each factor are reported in table 3.

(Table 3 here)

Separate 3x3x2 ANOVAs, with zero, one weights, were calculated on each factor. Duncan's multiple range test (Winer, 1971), set at .05, was used for post hoc comparisons of significant main effects. Simple effects analysis (Winer, 1971) was used to analyze significant interactions post hoc.

The ANOVA on factor one revealed significant main effects for condition, F (2) = 28.93, $p < .0001$, and grade, F (2) = 54, $p < .0001$, and a significant condition x grade interaction, F (4) = 4.90, $p < .001$. The sex x condition x grade model accounted for .688 of the variance in factor one.

(Table 4 here)

Post hoc multiple comparisons on the significant main effect for condition showed that the play group ($\bar{x}$ = 5.888) scored significantly higher than both discussion ($\bar{x}$ = 4.722) and drawing ($\bar{x}$ = 3.666) groups. The discussion group, in-turn, scored significantly higher than the drawing group. The post hoc comparison for the significant effect for grade on factor one indicated that second graders ($\bar{x}$ = 6.361) scored significantly higher than both first graders ($\bar{x}$ = 4.611) and kindergarteners ($\bar{x}$ = 3.305). First graders, in turn, scored significantly higher than kindergarteners. For the grade x condition interaction, the simple effect of condition was examined at each grade level. The interaction is shown in figure 1.

(Figure 1 here)

For kindergarten, there was a significant effect for condition, F (2) = 17.59, $p < .0001$, with the play group ($\bar{x}$ = 4.916) scoring significantly higher than both discussion ($\bar{x}$ = 3.416) and drawing ($\bar{x}$ = 1.583) groups. The discussion group scored significantly higher than the drawing group. At grade one there, again, was a significant main effect for condition, F (2) = 14.16, $p < .0001$, with the play group ($\bar{x}$ = 6.083) scoring higher than both discussion ($\bar{x}$ = 4.583) and drawing ($\bar{x}$ = 3.166) groups; discussion was significantly higher than drawing. For second graders there were no significant differences among conditions.

The ANOVA on factor two revealed significant main effects for condition, F (3) = 4.48, $p < .01$, and grade, F (2) = 7.03, $p < .001$.

(Table 5 here)

The sex x condition x age model accounted for 25.9% of the variance in factor two. There were no significant differences between play ($\bar{x}$ = 1.111) and discussion ($\bar{x}$ = .944) groups or between discussion and drawing ($\bar{x}$ = .6111) groups. However, the play group scored significantly higher than the drawing group on factor two. Grades one ($\bar{x}$ = .916) and two ($\bar{x}$ = .194) scored significantly higher than kindergarteners ($\bar{x}$ = .555) on factor two. There was no significant difference between grades one and two.

Two aspects of children's story retellings were analyzed: total number of events recalled and sequence of events recalled. Means and standard deviations of total recall and sequences are presented in table 6.

(Insert Table 6 here)

Separate 3 (condition) x 3 (grade) x 2 (listener) ANOVAs were calculated on total recall and on sequence. Duncan's multiple range tests (Winer, 1971), set at .05, were calculated on significant main effects. The ANOVA on recall revealed significant main effects for condition, F (2) = 8.88, $p < .0003$ and grade, F (2) = 4.67, $p < .01$. The model accounted for 31.0% of the variance in total recall. No other conditions or interactions were significant.

(Insert Table 7 here)

A post hoc analysis on condition indicated that the play group ($\bar{x}$ = 5.805) recalled significantly more events than both discussion ($\bar{x}$ = 4.361) and drawing ($\bar{x}$ = 3.777) groups; no other between condition differences were significant. The post hoc analysis on grade showed that second graders ($\bar{x}$ = 5.500) recalled significantly more events than both first graders ($\bar{x}$ = 4.444) and kindergarteners ($\bar{x}$ = 4.000); no other between grade differences were significant.

The ANOVA on sequence also revealed significant main effects for condition;

F (2) = 4.78, $p < .01$, and grade, F (2) = 3.58, $p < .03$. The model accounted for 28.6% of the total variance in sequence. The post hoc analysis for the

(insert Table 8 here)

condition effect showed that the sequence for players ($\bar{x}$ = 3.472) was significantly better than for children in both discussion ($\bar{x}$ = 1.972) and drawing ($\bar{x}$ = 2.111) conditions; no other between condition differences were significant. The post hoc analysis of grade on sequence indicated that the sequence of second graders ($\bar{x}$ = 2.250) was significantly better than both first graders ($\bar{x}$ = 2.250) and kindergarteners ($\bar{x}$ = 1.972); no other between grade differences were significant.

In order to examine the extent to which players' roles predicted total recall and sequence recall, Pearson's product-moment correlations were calculated among play, total recall and sequence recall for each grade level. The correlations were significant only at the kindergarten level. The correlations for kindergartners' play and total recall were: r (12) = .70, $p <$ .01; play and sequence were: r (12) = .54, $p < .06$. The significant correlation between play and total recall at the kindergarten level was followed-up with a one-way ANOVA. In this analysis the effects of play roles on recall were examined. The effect of play on total recall was approaching significance, F (3.8) = 3.45, $p < .071$, accounting for .56 of the variance in recall. The mean number of events recalled by kindergarteners in each of the play roles were: Red Cap, 6.500; Wolf, 6.333; Hunter, 3.500; Grandmother, 2.666. The one-way ANOVA for kindergarteners' play on sequence was not significant, F (3.8) = 2.05, $p < .185$, but the model accounted for .434 of the variance in sequence. The mean sequence score for kindergarteners in each role was: Red Cap, 3.5; Wolf, 2.6; Hunter, .666; Grandmother, .250.

Discussion

The results of the present study generally suggest that children's story comprehension is a function of two factors: age and their training in verbally reconstructing the story. In all of the aspects of story comprehension measured in this study, CRT scores and retellings, second graders performed significantly better than the younger children. This finding supports findings of Piaget (1969) and Brown (1975). They found that children younger than seven to eight years of age could not verbally reconstruct stories in the correct sequence. Sequential reconstruction, according to Piaget, involves reversible operations to the extent that children must project story events forward and backward in thought.

The first aspect of story comprehension examined in this study was performance on CRT items measuring story related comprehension. Results indicated that, with age, children's story related comprehension improved. Second, children exposed to conditions which had them verbally encoding the story, whether in fantasy play or in adult lead discussion, answered correctly more story related comprehension questions. More specifically, for kindergartners and first graders story related comprehension was most effectively facilitated by engaging in fantasy play. Engaging in discussion was less effective than but more effectively than drawing. These results may be explained in that both discussion and play groups children were trained to encode verbally aspects of the story. However, comprehension was most effectively facilitated when children's concepts of stories were accomodated to peers' story concepts in fantasy play. In order to initiate and sustain fantasy play players must reach concensus on role, setting, and prop definitions. Through this verbal negotiation process children become aware of many aspects of the story, aspects other than they alone knew. They must

accomodate their views to other views in order to engage in play.

Engaging in fantasy play also has children practicing reversible thought operations. By engaging in fantasy play children conserve their own identity vis-a-vis their fantasy role, a reversible operation. That is, while engaging in fantasy play, children recognize both their real identity and their fantasy identity (Rubin, 1980). These decentration skills may help children view events from their own perspective and from others' perspectives.

By the time children are in the second grade they seem capable of viewing a story from different perspectives. Neither discussion nor play conditions significantly improved story comprehension for second graders.

The second aspect of story comprehension examined was CRT items measuring judgmental intelligence. For these questions children had to judge the appropriateness of characters' actions in the story in relation to a standard criteria, not mentioned in the story (Bloom, 1956), e.g., Little Red Cap's disobeying her mother when she picked flowers. To answer these questions correctly children had to evaluate the characters' actions, e.g., disobeying, against an ideal characteristic, e.g., the ideal daughter. First and second graders made significantly more correct judgments than kindergarteners. Selman (1976) has also found that children acquire the ability to compare others' actions against a "right role" between six and eight years of age.

Children in the fantasy play condition were also most successful in answering judgmental questions. Kohlberg (1969) stated that this form of judgment requires children to take simultaneously the role perspectives of the actor and the ideal role. As was stated earlier, children engaging in fantasy play conserve two roles, their own and the fantasy role.

Results from both story retell tasks, i.e., total recall and sequential recall, showed that second graders' retelling were significantly better than both first graders and kindergarteners. Brown (1977) suggested that the expository skills necessary in story retell tasks undergo significant developmental change between kindergarten and second grade. Her study found that kindergarteners could not verbally recall stories sequentially whereas second graders could. She noted that children's expository, or narrative, skills, not their ability to recollect the story, were responsible for the age differences.

The narrative production deficit explanation is applicable to the present study, particularly in light of the differential condition effects on children's retellings. Children in the fantasy play condition recalled most total story events and most sequences of events. Fantasy play not only trains children to use language in a narrative form but also requires them to interact verbally (Sachs, 1980). In fantasy play children use language to transform roles, props, and the setting to correspond to the original story. The extent to which players actively engage in this transformation process seems to affect directly their ability to retell the story. More specifically, kindergarten players' story retelling ability seemed to be a function of the activity involved in enacting the specific play roles. Children playing roles requiring more active involvement had better total recall and sequential recall scores. In this study the roles, in order of activity, were: Red Cap, wolf, hunter, and grandmother. The mean number of events recalled and the mean sequence scores for each of these roles declined in the same order. This seems to indicate that young children's enacting of fantasy roles stimulates the verbal skills necessary to retell stories. In both play and retell, children are using language to reconstruct many aspects of the story.

The mean scores for each role were not significantly different at the .05 level, possibly due to the small number of children, three, in each role in each grade. However, the main effect of role did account for 58% and 43% of the variance in kindergarteners' total recall and sequential recall, respectively. In light of these findings further study, with a larger sample, is warranted.

In the discussion condition children also verbally reconstructed the story. Each child generated his/her own reconstruction in response to adult questions. Each child was also exposed to the reconstructions of the three other discussants. Each discussant, however, did not have to accommodate to the information given by other discussants. That is, they did not have to incorporate others' views of the story into their own concept. Each discussant, then, probably used only his/her own recollection in the retells. This explanation is supported further in light of the lack of significant differences between discussion and drawing groups on both retell tasks. In the drawing group children restructed the story alone, they did not share views of the story. Their retells were also probably based on their uniperspective view of the story.

In summary, the results from this study indicate that children are not able to recall stories completely until they are around eight years of age. At this time they are able to answer questions on many aspects of the story and retell the story in an ordered sequence. Younger children's, kirdergarteners and first graders, story comprehension is improved when they verbally reconstruct the story. The more effective form of verbal reconstruction of story is fantasy play. In this condition young children's concept of story is broadened because they verbally transform roles and props in a peer interaction context.

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Table 1

CORRELATION MATRIX OF CRT ITEMS

Variable	1	2	3	4	5	6	7	8	9	
1		.43049	.38277	.26464	.37028	.44138	.18023	.25732	.23568	.12
2	.43049		.28157	.23011	.26277	.45941	.21263	.25056	.21080	.14
3	.38277	.28157		.15170	.30966	.37192	.12741	.35865	.19749	.05
4	.26464	.23011	.15170		.36105	.40453	.06471	.30515	.23551	.04
5	.37028	.26277	.30966	.36105		.24401	.26356	.31984	.19066	.18
6	.44138	.45941	.37192	.40453	.24401		.17897	.24275	.34868	.09
7	.18023	.21263	.12741	.06471	.26356	.17898	.	.15645	.09091	.12
8	.25732	.25056	.35865	.30515	.31984	.24275	.15645		.23327	.10
9	.23568	.21080	.19749	.23531	.19066	.34868	.09091	.23327		.33
10	.12680	.14004	.05998	.04115	.18404	.09785	.12228	.10522	.33168	

Table 2

VARIMAX ROTATED FACTOR STRUCTURE

Variable/Items	Factor 1	Factor 2
Remembering		
1	.634	.125
2	.561	.140
Understanding		
3	.539	.060
4	.484	.075
Solution		
5	.508	.200
6	.664	.119
Analysis		
7	.265	.143
8	.475	.133
Judgement		
9	.332	.407
10	.034	.745

Table 3

MEANS AND STANDARD DEVIATIONS FOR PERFORMANCE ON FACTORS ONE AND TWO X GRADE X CONDITION

	Factor 1			Factor 2		
Grade and Condition*	N	$\bar{X}$	SD	N	$\bar{X}$	SD
K						
1	12	4.916	1.505	12	.75	.753
2	12	3.416	1.311	12	.666	.778
3	12	1.583	1.311	12	.25	.452
Total	36	3.305	1.924	36	.555	.694
1ST						
1	12	6.083	..996	12	1.083	.668
2	12	4.583	1.240	12	1.000	.738
3	12	3.166	1.696	12	.666	.651
Total	36	4.611	1.777	36	.916	.691
2ND						
1	12	6.666	.492	12	1.500	.797
2	12	6.166	1.466	12	1.166	.834
3	12	6.250	.753	12	.916	.792
Total	36	6.361	.990	36	1.194	.821
K, 1, 2						
1	36	5.886	1.282	36	1.111	.784
2	36	4.722	1.733	36	.944	.790
3	36	3.666	2.342	36	.661	.687
Total	108	4.759	2.036	108	.888	.777

* Conditons: 1 = Thematic fantasyplay; 2 = Discussion; 3 = Drawing.

Table 4

SUMMARIES FOR SEX X CONDITION X GRADE EFFECTS ON FACTOR ONE

Source	df	SS	F	p
Sex	1	5.337	3.47	.065
Condition	2	89.000	28.93	.0001
Sex x Condition	2	3.610	1.17	.313
Grade	2	168.891	54.90	.0001
Sex x Grade	2	3.783	1.23	.297
Condition x Grade	4	30.141	4.90	.001
Sex x Condition x Grade	4	3.607	.59	.673

Table 5

SUMMARIES FOR SEX X CONDITION X GRADE EFFECTS ON FACTOR TWO

Source	df	SS	F	p
Sex	1	.232	.44	.510
Condition	2	4.764	4.48	.014
Sex x Condition	2	.678	.64	.531
Grade	2	7.482	7.03	.001
Sex x Grade	2	1.360	1.28	.283
Condition x Grade	4	.328	.15	.960
Sex x Condition x Grade	4	2.152	1.01	.406

Table 6

MEANS AND STANDARD DEVIATIONS FOR TOTAL RECALL AND SEQUENCE BY GRADE AND CONDITION

	Total			Sequence		
Grade and Condition*	N	$\bar{x}$	SD	N	$\bar{x}$	SD
K						
1	12	4.500	2.276	12	1.750	2.490
2	12	4.166	2.724	12	1.916	2.906
3	12	3.333	2.309	12	2.250	2.416
1st						
1	12	6.500	1.507	12	4.250	2.137
2	12	3.333	1.775	12	1.000	1.348
3	12	3.500	1.930	12	1.500	1.507
2nd						
1	12	6.416	1.676	12	4.416	2.574
2	12	5.583	1.621	12	3.000	2.449
3	13	4.500	1.621	12	3.000	.778

*Conditions: 1 = Thematic fantasy play; 2 = Discussion; 3 = Drawing.

Table 7

SUMMARIES FOR CONDITION X GRADE X LISTENER STATUS ON TOTAL RECALL

Source	df	SS	F	p
Condition	2	77.657	8.88	.003
Grade	2	40.795	4.67	.011
Condition X Grade	4	29.877	1.71	.154
Listener	1	.018	.00	.947
Condition X Listener	2	3.125	.36	.700
Grade X Listener	2	8.608	.98	.377
Condition X Grade X Listener	4	15.777	.90	.4661

Table 8

SUMMARIES FOR CONDITION X GRADE X LISTENER ON SEQUENCE

Source	df	SS	F	p
Condition	2	48.838	4.78	.01
Grade	2	36.616	3.58	.03
Condition X Grade	4	48.157	2.36	.06
Listener	1	7.280	1.42	.23
Condition X Listener	2	12.437	1.22	.30
Grade X Listener	2	24.104	2.36	.10
Condition X Grade X Listener	4	6.578	.32	.09

Figure 1

GRADE X CONDITION INTERACTION FOR FACTOR ONE